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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,152	05/30/2001	Masaaki Yokoyama	262/054	8878
7590	10/16/2003		EXAMINER	VO. HAI
Warren M Cheek Jr. Wenderoth Lind & Ponack LLP 2033 K Street Suite 800 Washington, DC 20006				ART UNIT 1771
				PAPER NUMBER DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b><i>Office Action Summary</i></b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/870,152	YOKOYAMA ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Hai Vo	1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### **Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 15 September 2003 .

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-4 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-4 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a)  The translation of the foreign language provisional application has been received.

15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_ .  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 5)  Notice of Informal Patent Application (PTO-152)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) 072503 . 6)  Other: \_\_\_\_\_ .

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear and confusing that how an L/D ratio of a **long** diameter L to a **short** diameter can be lower than 1.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shioya et al (US 5,928,776) in view of JP-10-077359 and Tokoro et al (US 5,622,756).

Shioya teaches a composite material comprising a surface layer of a polypropylene resin **1a**, an intermediate cushioning layer of a polypropylene foamed sheet **1b** and a backing layer of an expanded polypropylene resin particle **4** (figure 3). Shioya does not specifically disclose the compressive hardness of the cushioning layer.

However, the polypropylene foam layer of Shioya has a gel fraction, melting point, thickness, and expansion ratio within the ranges claimed in the present invention (table 2). Shioya teaches the composite material having excellent softness and

surface appearance (table 4). Thus, Examiner believes that there is no reason why the compressive hardness of the PP foam layer could not have been inherently present.

Shioya does not specifically disclose that a composite material has a coating layer of polyethylene film covering the backing layer of an expanded polypropylene resin particle. JP'359 discloses the foaming resin particle having a composite structure which consists of a core layer of polypropylene resin expanded beads and a skin layer of polyethylene based polymer (abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the backing layer of Shioya having a coating layer of polyethylene attached thereto motivated by the desire to obtain a composite material having high mechanical strength and thermal resistance.

Shioya does not specifically disclose the expanded polypropylene resin particle having an L/D ratio as presently claimed. Therefore, it is necessary and thus obvious for the skilled artisan to look to the prior art for the suitable L/D of the expanded polypropylene resin particle. Tokoro teaches expanded polypropylene resin particle having an L/D ratio within the claimed range (table 2, H/D<sub>min</sub>). In an absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the expanded polypropylene resin particle having an L/D ratio within the range instantly claimed, motivated by Tokoro and expectation of successfully practicing the invention of Shioya. Such a ratio is also taught by the prior art to provide the expansion molded

article which is high in fusion bonding strength and compressive strength which is important to the invention of Shioya, thus further suggesting the modification.

With regard to claim 2, Shioya does not specifically disclose an average particle diameter of the expanded polypropylene resin particle. Therefore, it is necessary and thus obvious for the skilled artisan to look to the prior art for the suitable particle diameter of the expanded polypropylene resin particle. Tokoro teaches expanded polypropylene resin particle having a particle size within the claimed range (table 2, example 5,  $(H+D_{min})/2$ ). In an absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the expanded polypropylene resin particle having a particle size within the claimed range, motivated by Tokoro and expectation of successfully practicing the invention of Shioya. Such a ratio is also taught by the prior art to provide the expansion molded article which is high in fusion bonding strength and compressive strength which is important to the invention of Shioya, thus further suggesting the modification.

With regard to claims 3 and 4, JP'359 further discloses the coating polyethylene layer substantially exhibiting no melting point (claim 7) or the melting point of the coating layer being 15°C or more lower than that of the polypropylene resin expanded particle (claim 3, [0012]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the coating layer of polyethylene having such a melting point motivated by the desire to prevent the coating layer from foaming.

***Response to Arguments***

5. The art rejections over Shioya et al (US 5,928,776) in view of JP-10-077359 have been overcome by the present amendment and response.
6. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on M,T,Th, F, 8:30-6:00 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

HV

DANIEL ZIRKER  
PRIMARY EXAMINER  
GROUP 1300  
1700

*Daniel Zirker*